

This Page Is Inserted by IFW Operations  
and is not a part of the Official Record

## **BEST AVAILABLE IMAGES**

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images may include (but are not limited to):

- BLACK BORDERS
- TEXT CUT OFF AT TOP, BOTTOM OR SIDES
- FADED TEXT
- ILLEGIBLE TEXT
- SKEWED/SLANTED IMAGES
- COLORED PHOTOS
- BLACK OR VERY BLACK AND WHITE DARK PHOTOS
- GRAY SCALE DOCUMENTS

**IMAGES ARE BEST AVAILABLE COPY.**

**As rescanning documents *will not* correct images,  
please do not report the images to the  
Image Problem Mailbox.**

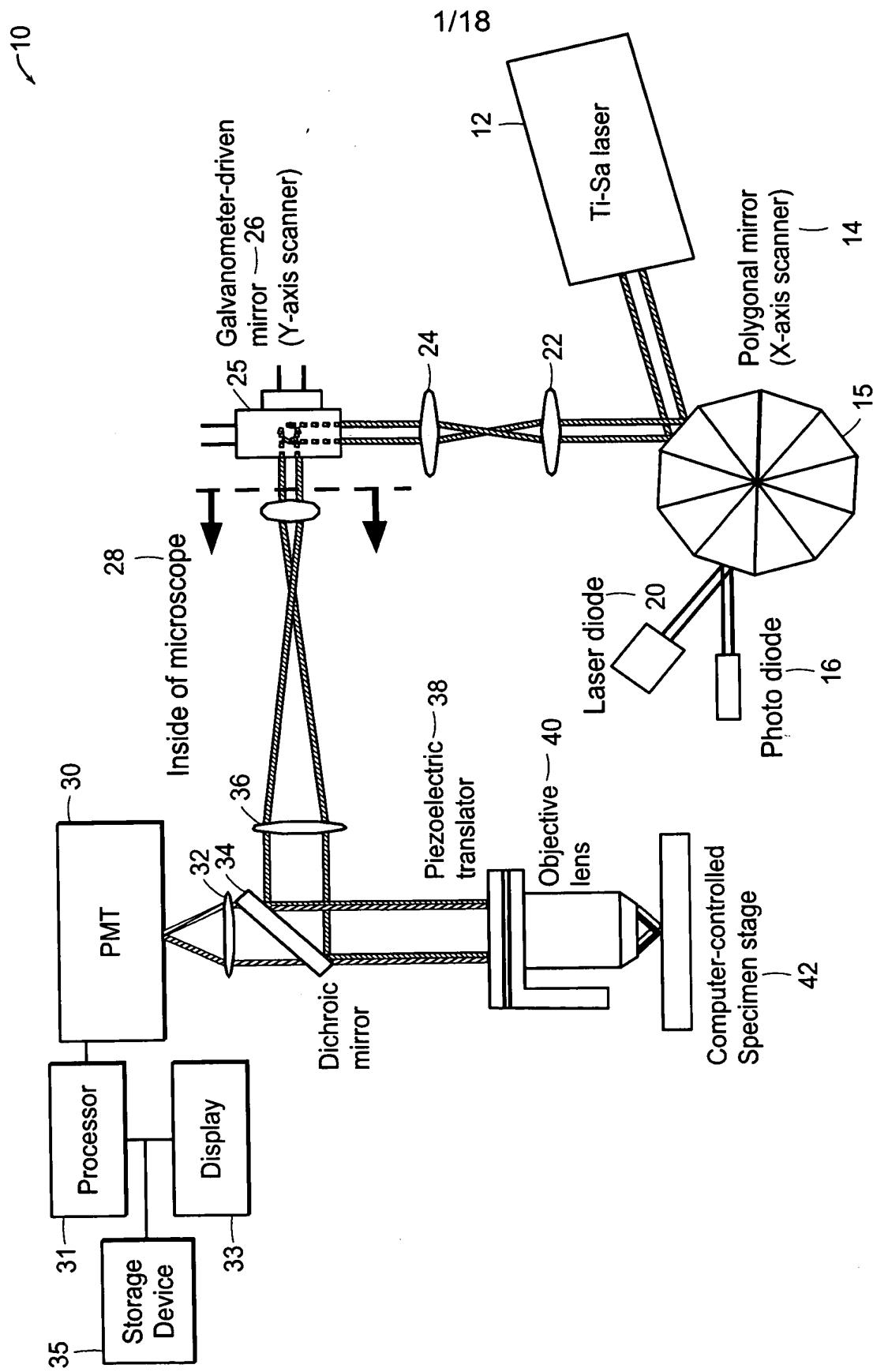


Figure 1A

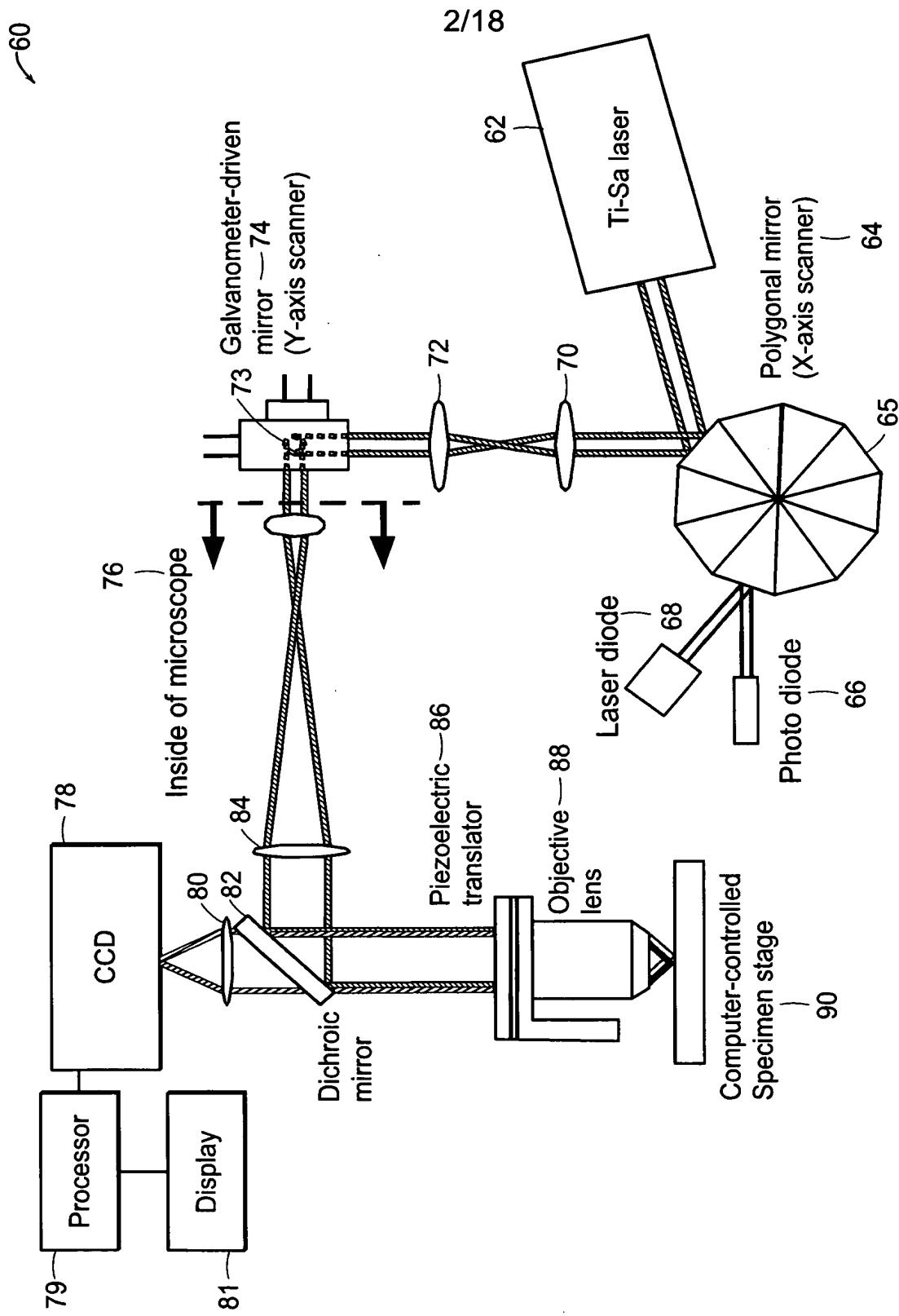


Figure 1B

3/18

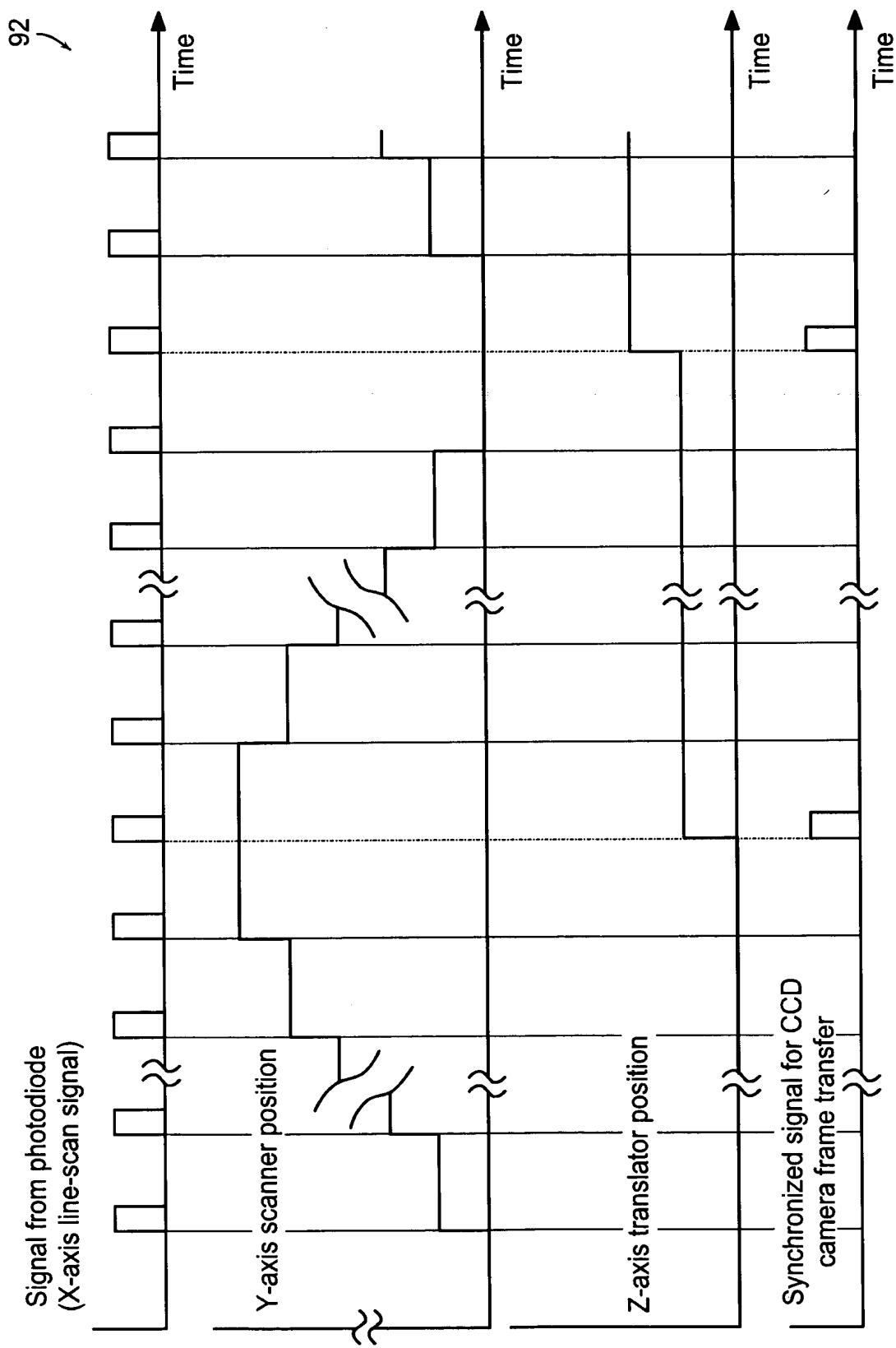


Figure 2

4/18

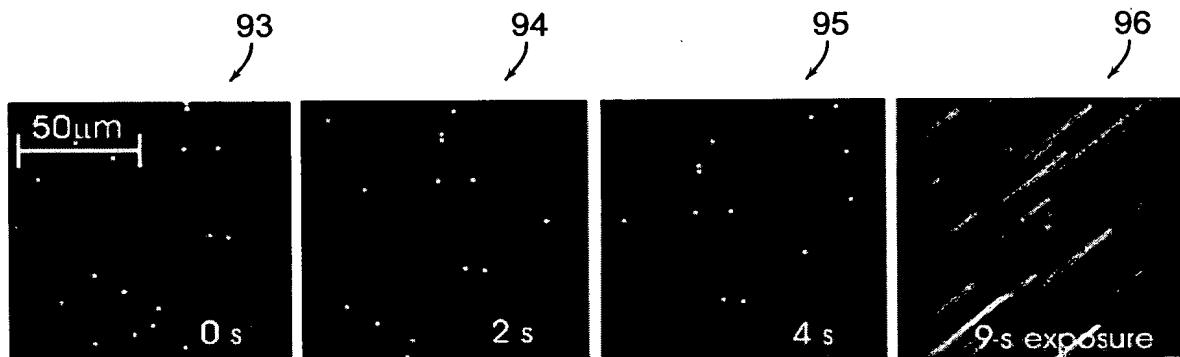


Figure 3A Figure 3B Figure 3C Figure 3D

5/18

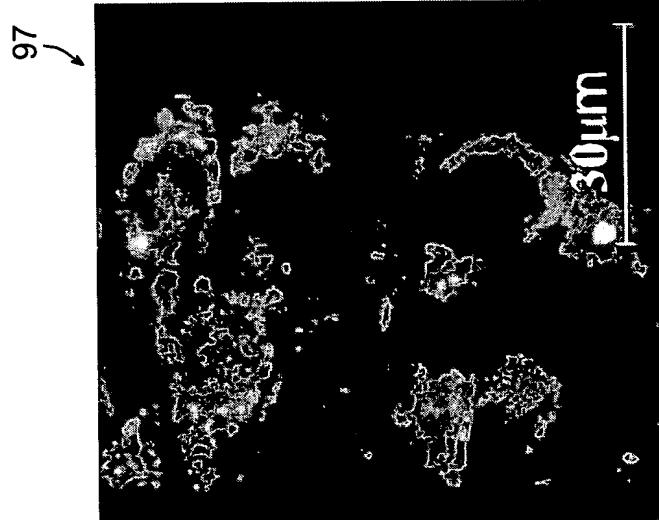
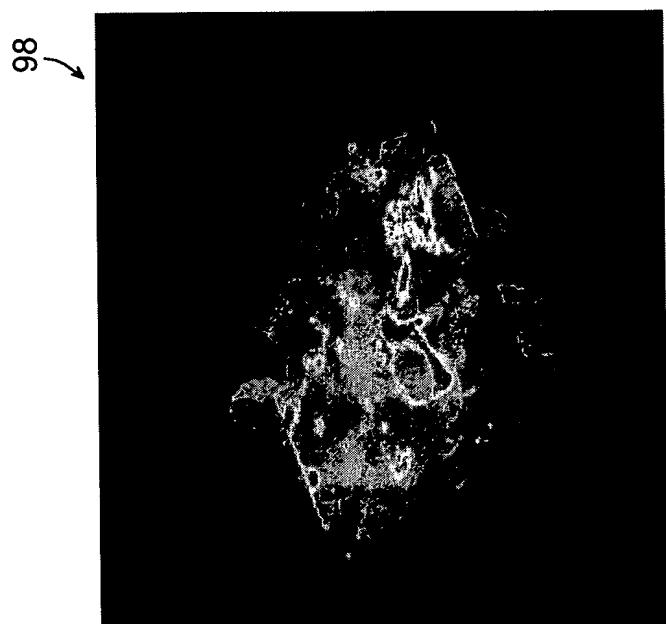


Figure 4B

Figure 4A

6/18

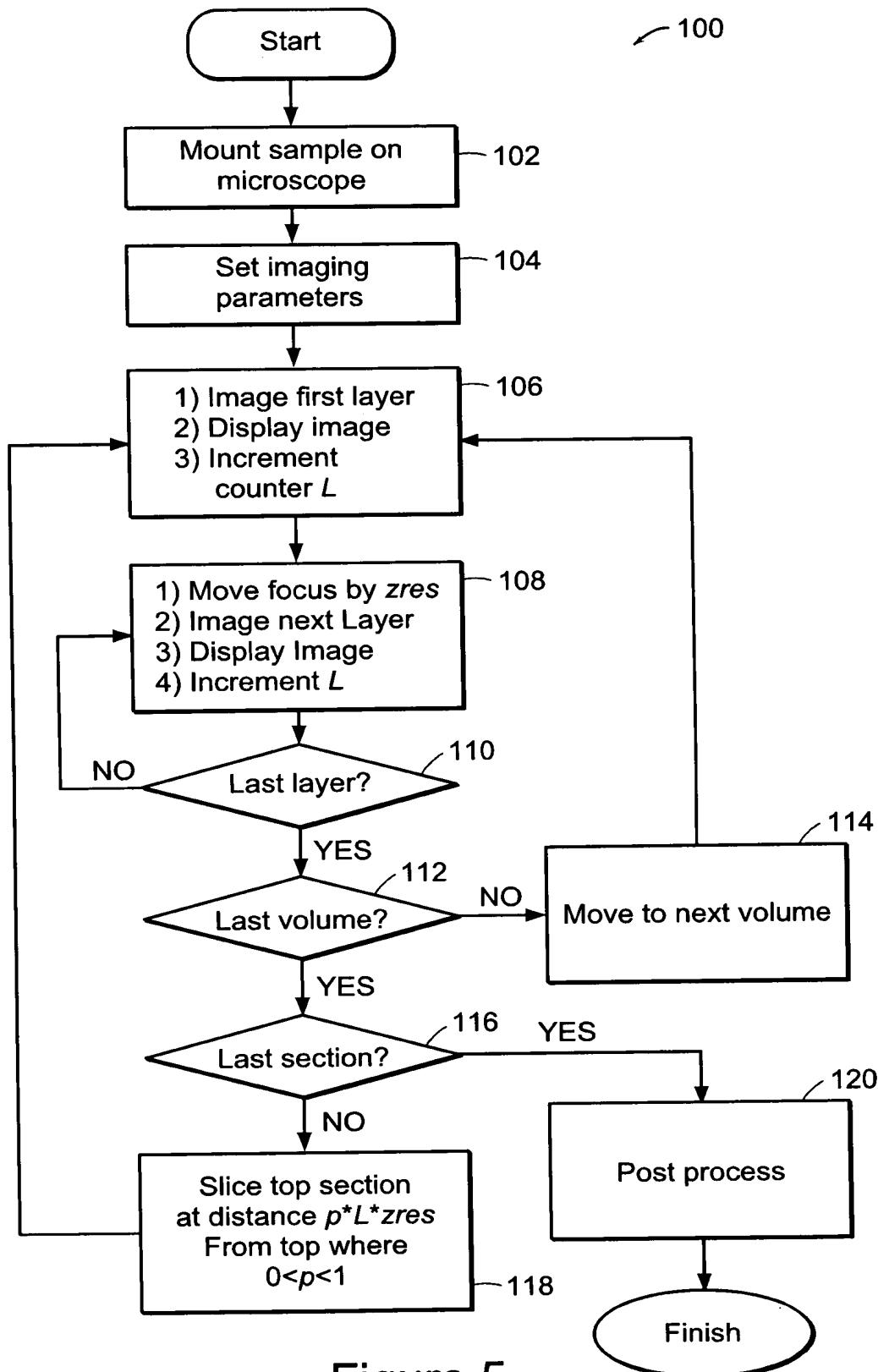


Figure 5

7/18

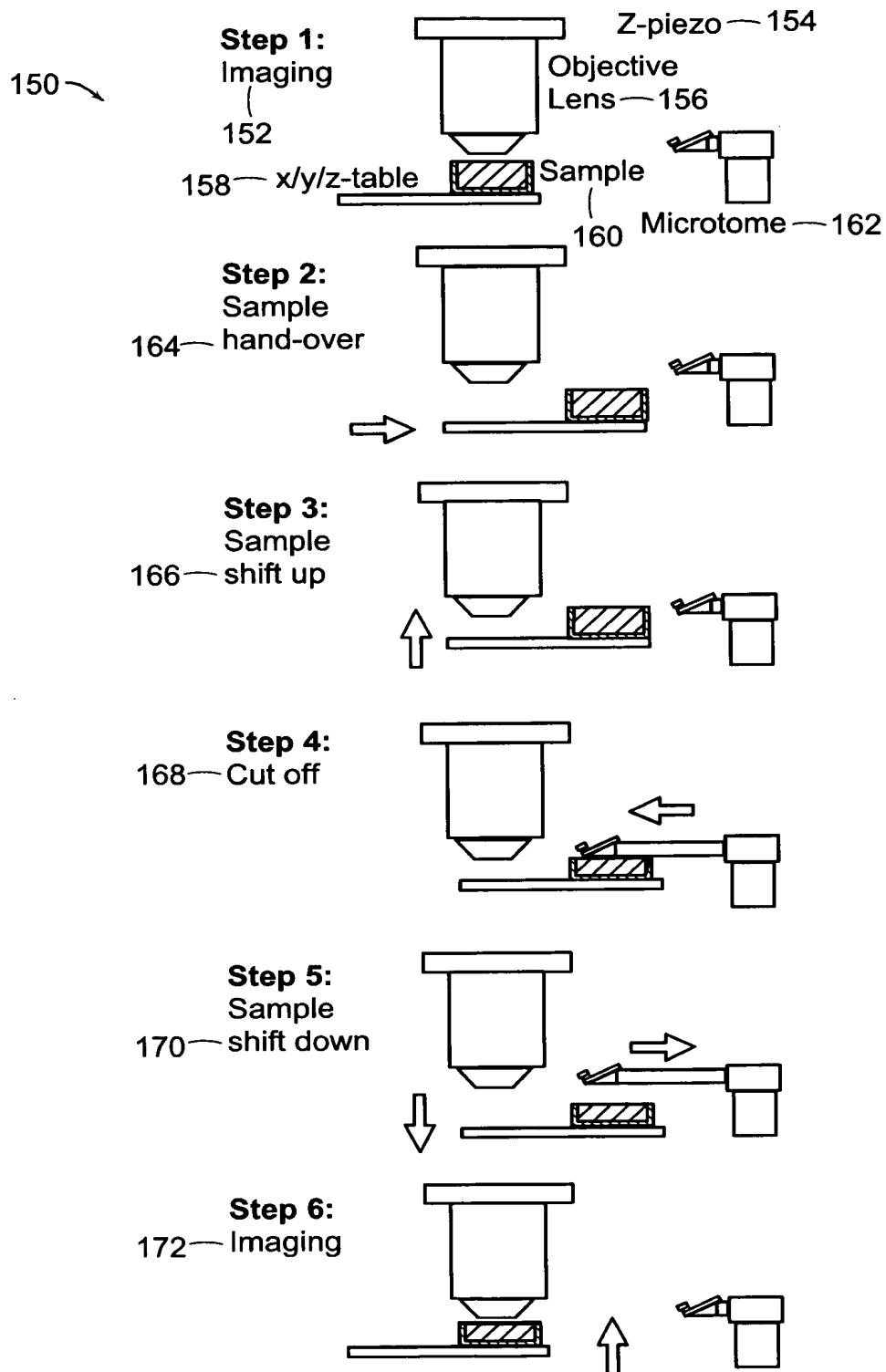


Figure 6

8/18

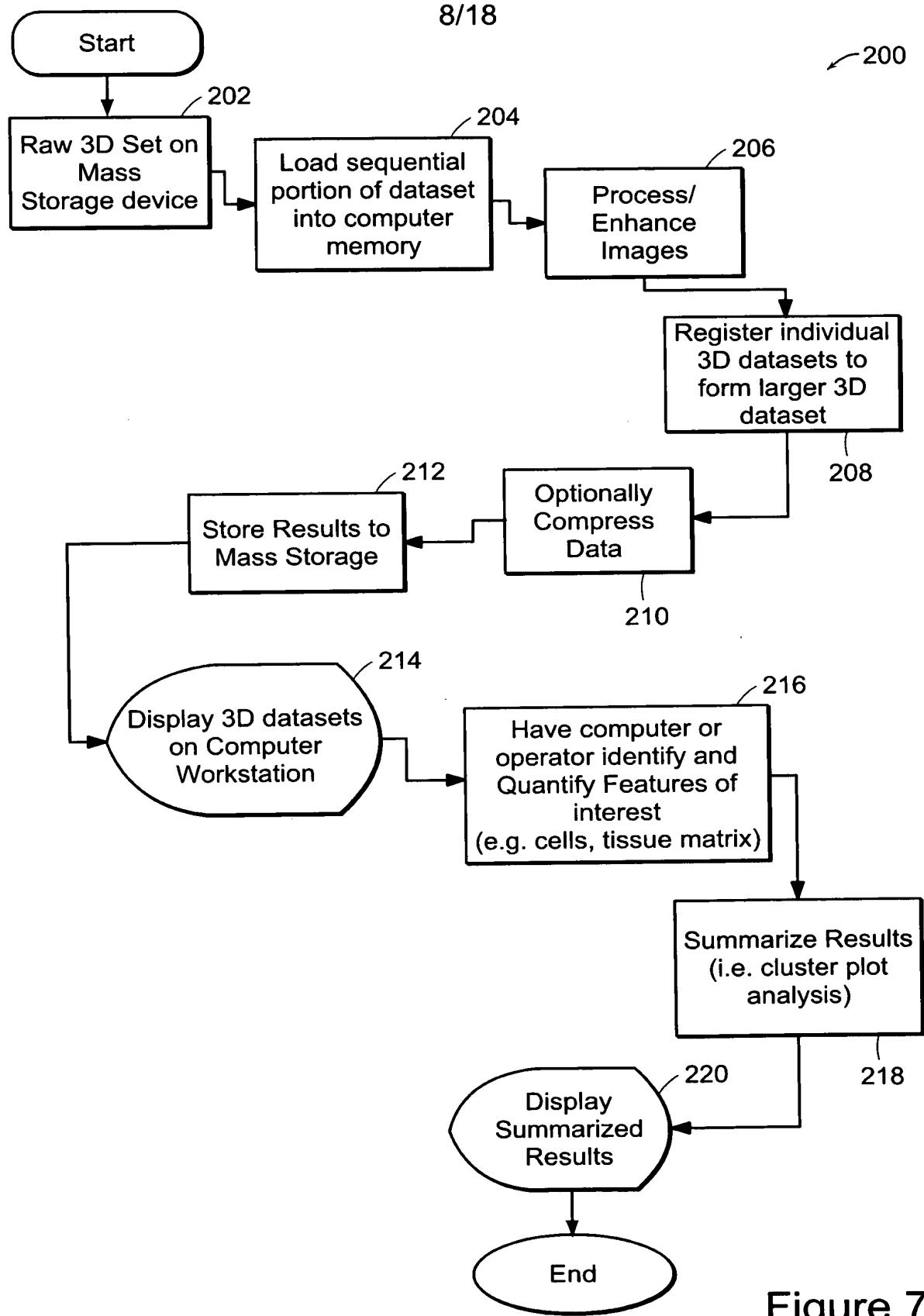
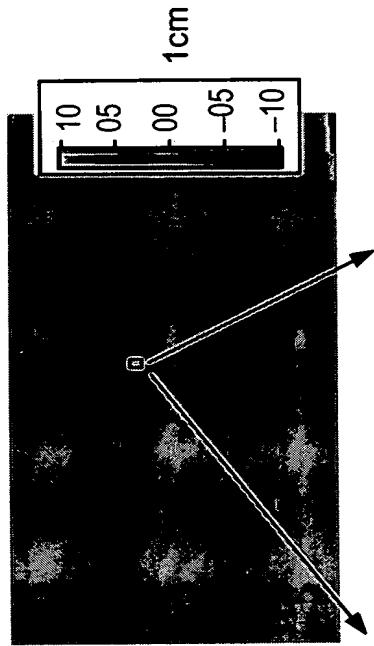


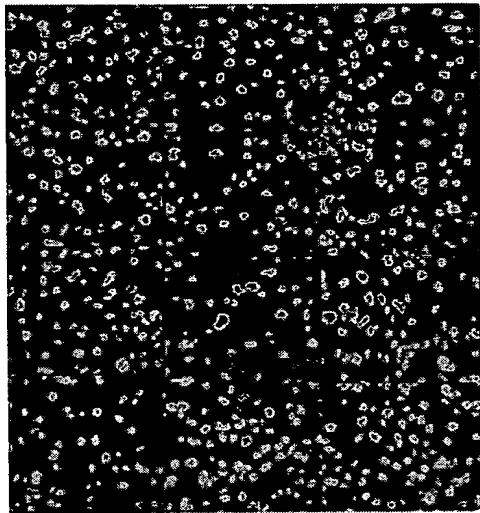
Figure 7

**Image Cytometry Data**

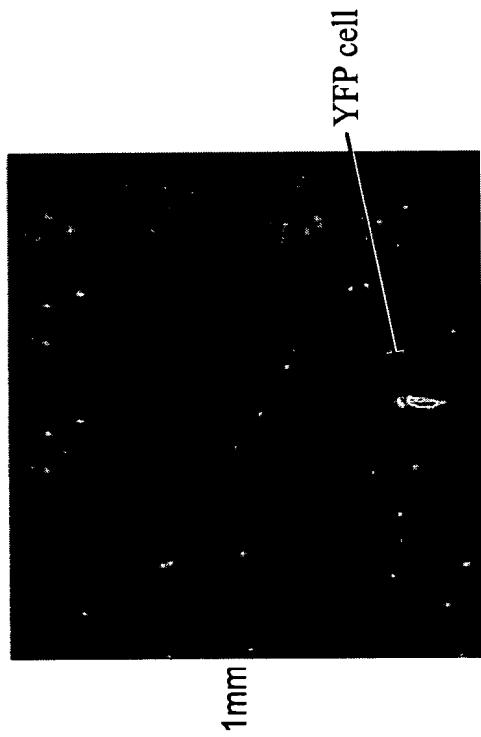
Fluorescence ratio image of a mixture of 3T3 cells and YFP cells dispersed on a coverslip. The cell nuclei are stained with Hoechst 3342



**Figure 8A**  
**Figure 8B**



**Blue Channel (Nuclei)**  
**Figure 8C**  
**Figure 8B**  
**Green Channel (YFP)**



10/18

### High Resolution Volumetric Imaging of Mouse Brain

A mouse was genetically engineered to co-express GFP along with actin in the brain. The brain was excised and then fixed in 4% paraformaldehyde and then embedded in paraffin.

#### Imaging Parameters:

1  $\mu$ m xy resolution; 3  $\mu$ m z resolution  
Eighteen 60  $\mu$ m microtome sections  
Imaging Time: 45 minutes  
Approximately  $1*10^5$  cells

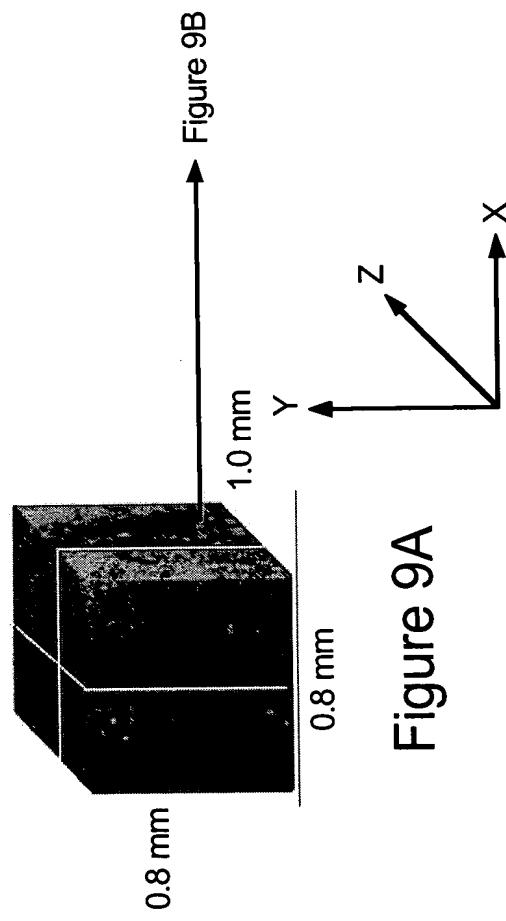
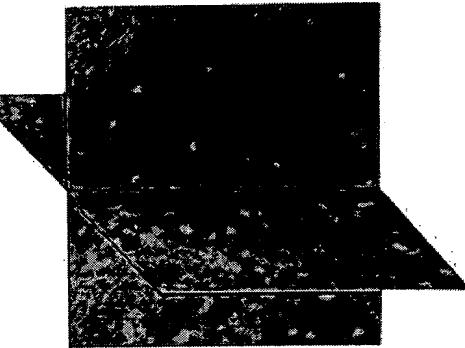


Figure 9B



11/18

### Data Analysis

A segmentation of the images is performed and the nuclei are categorized by several parameters:

Parameter Set  
1) Nuclear Area  
2) Nuclear Circularity  
3) Fluorescence Ratio  
4) YFP (green channel) intensity

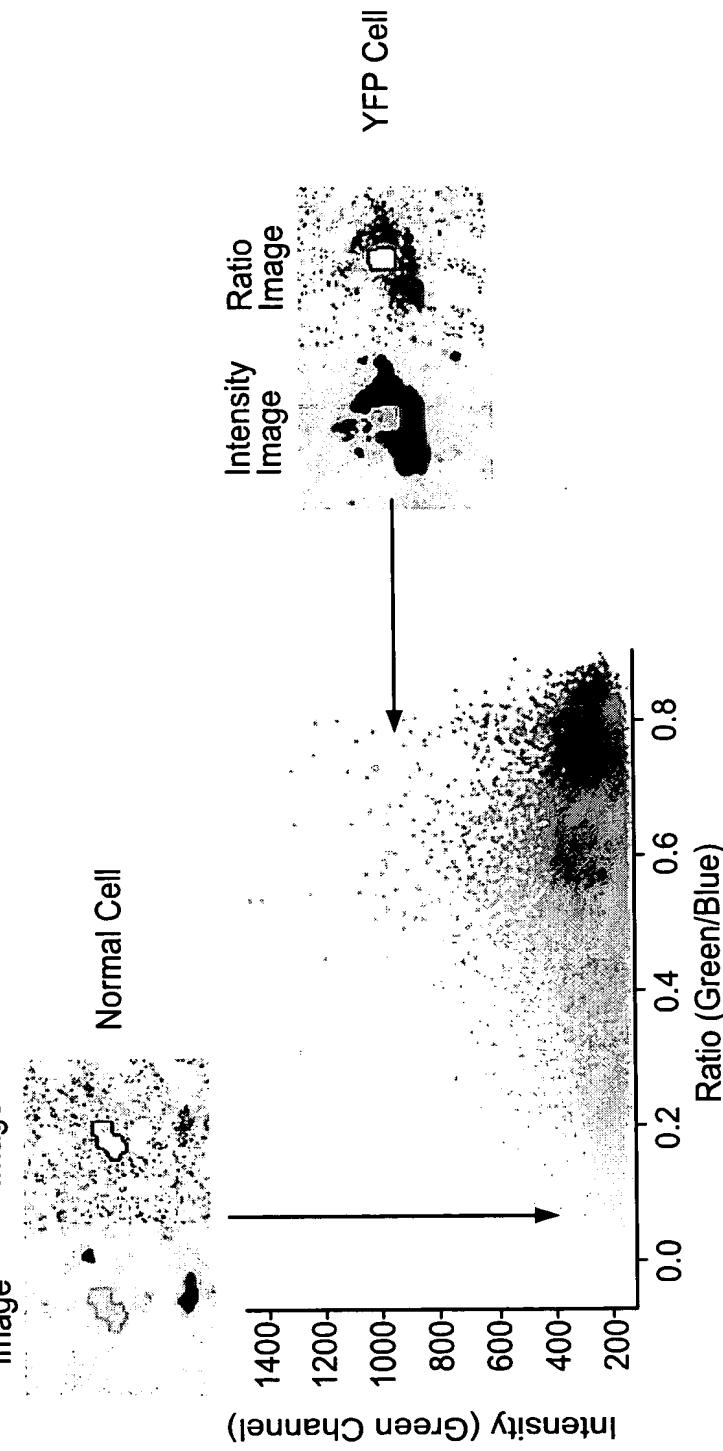
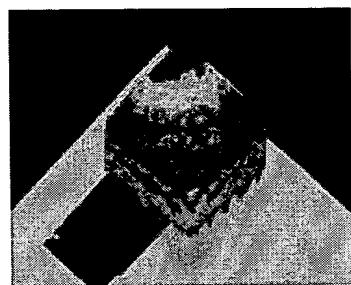


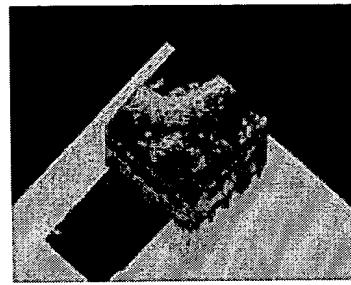
Figure 10

12/18



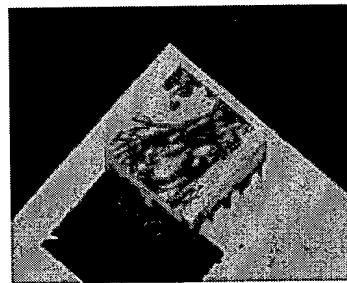
A cell layer in the epidermis

Figure 11A



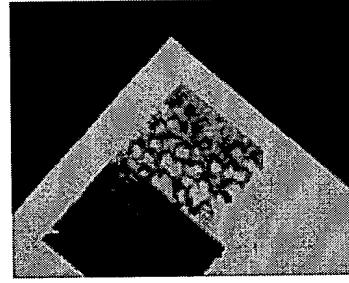
Basal cell layer in epidermis

Figure 11B



Collagen/elastin fibers in the dermal layer

Figure 11C



Honeycomb-like cartilage structure

Figure 11D

13/18

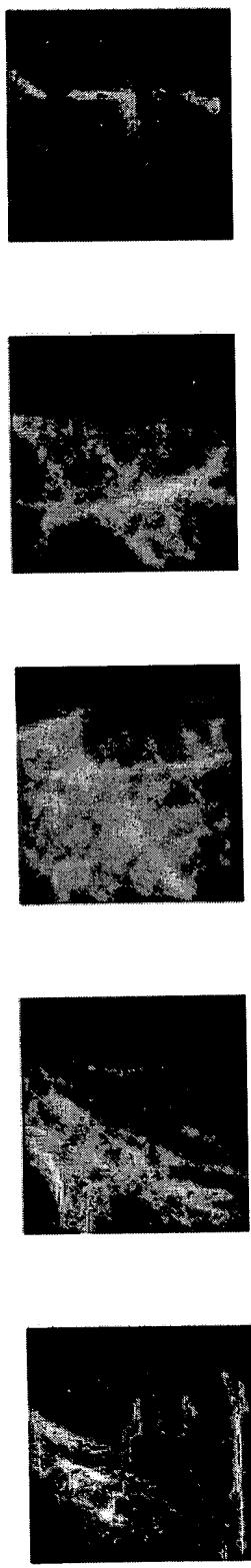


Figure 12A Figure 12B Figure 12C Figure 12D Figure 12E

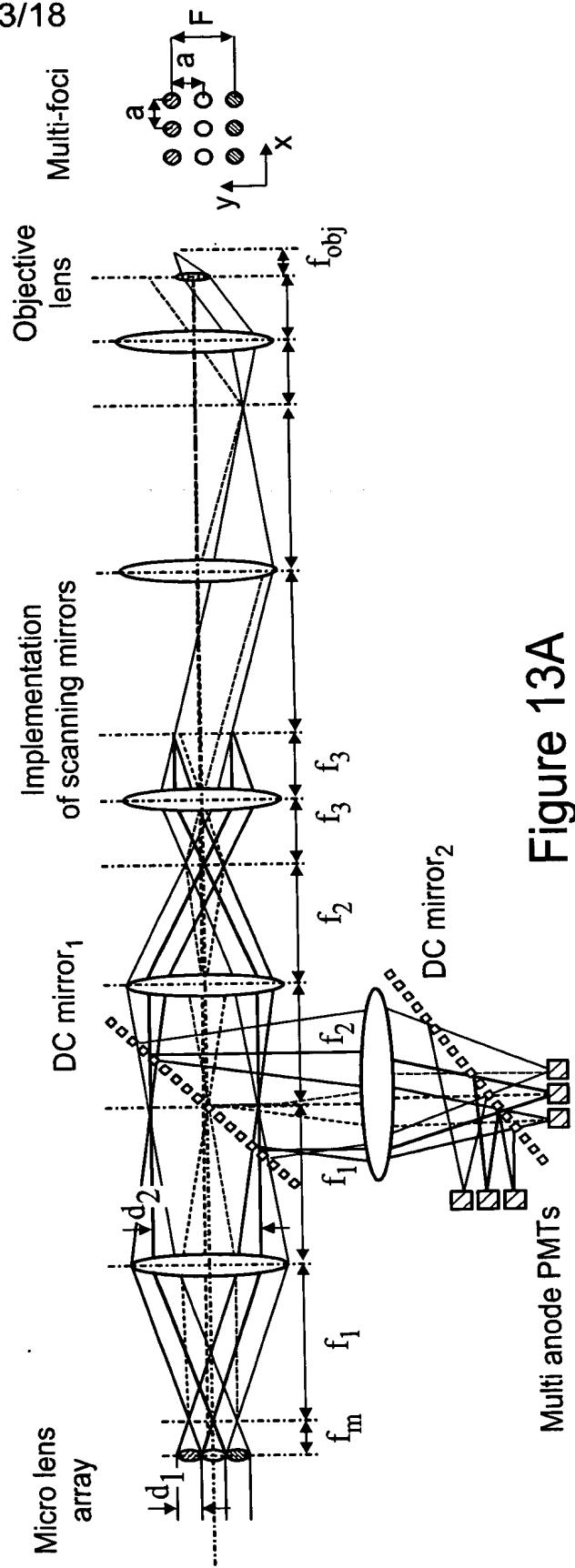
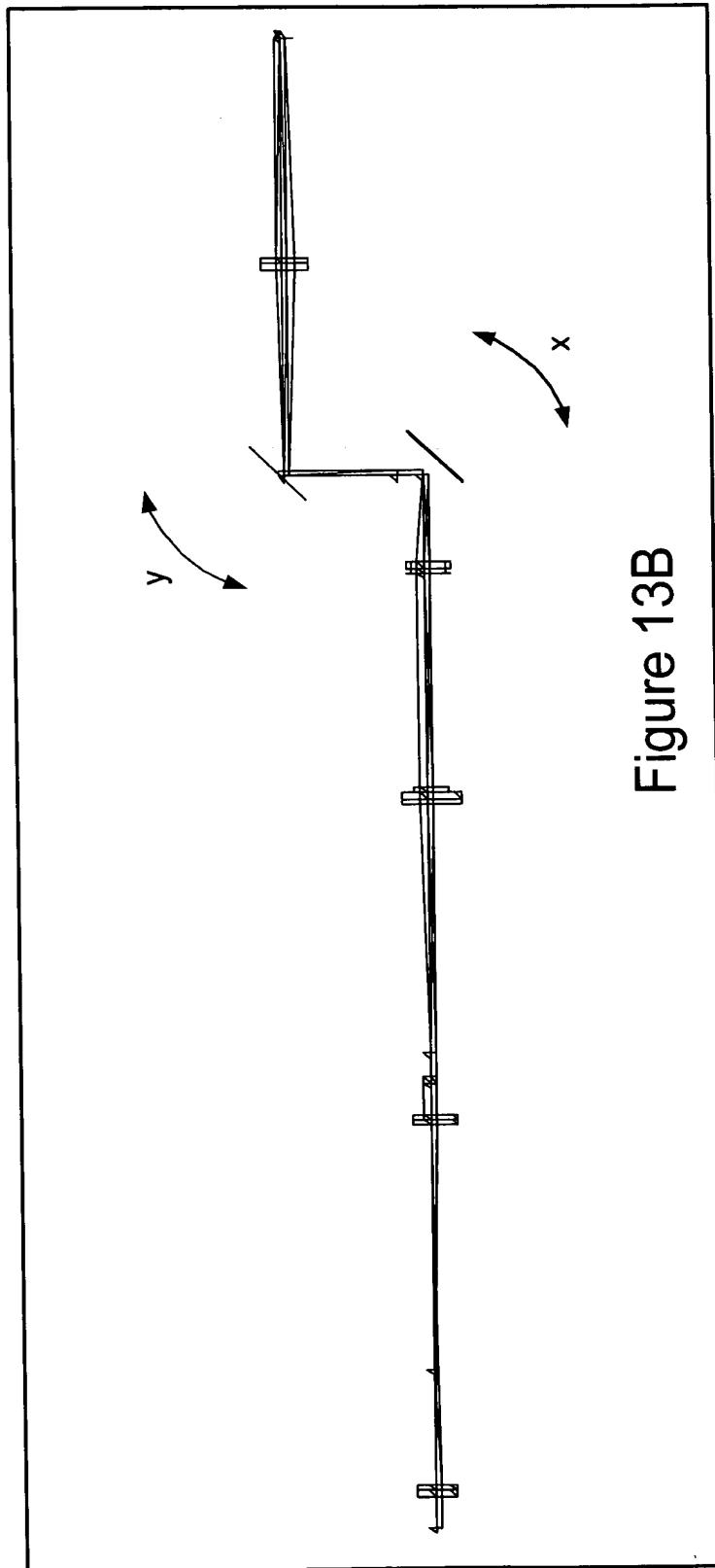


Figure 13A

14/18



15/18

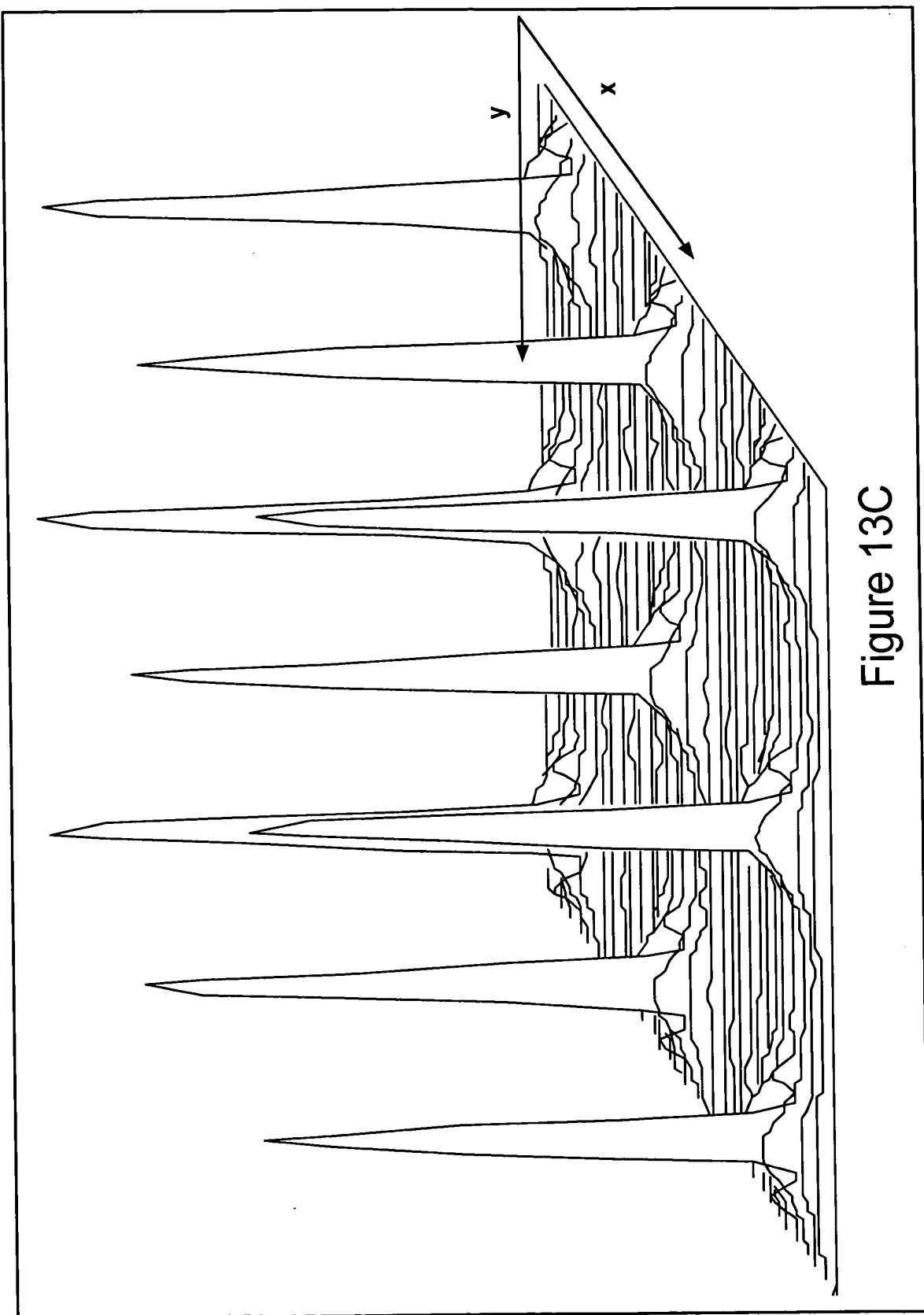


Figure 13C

16/18

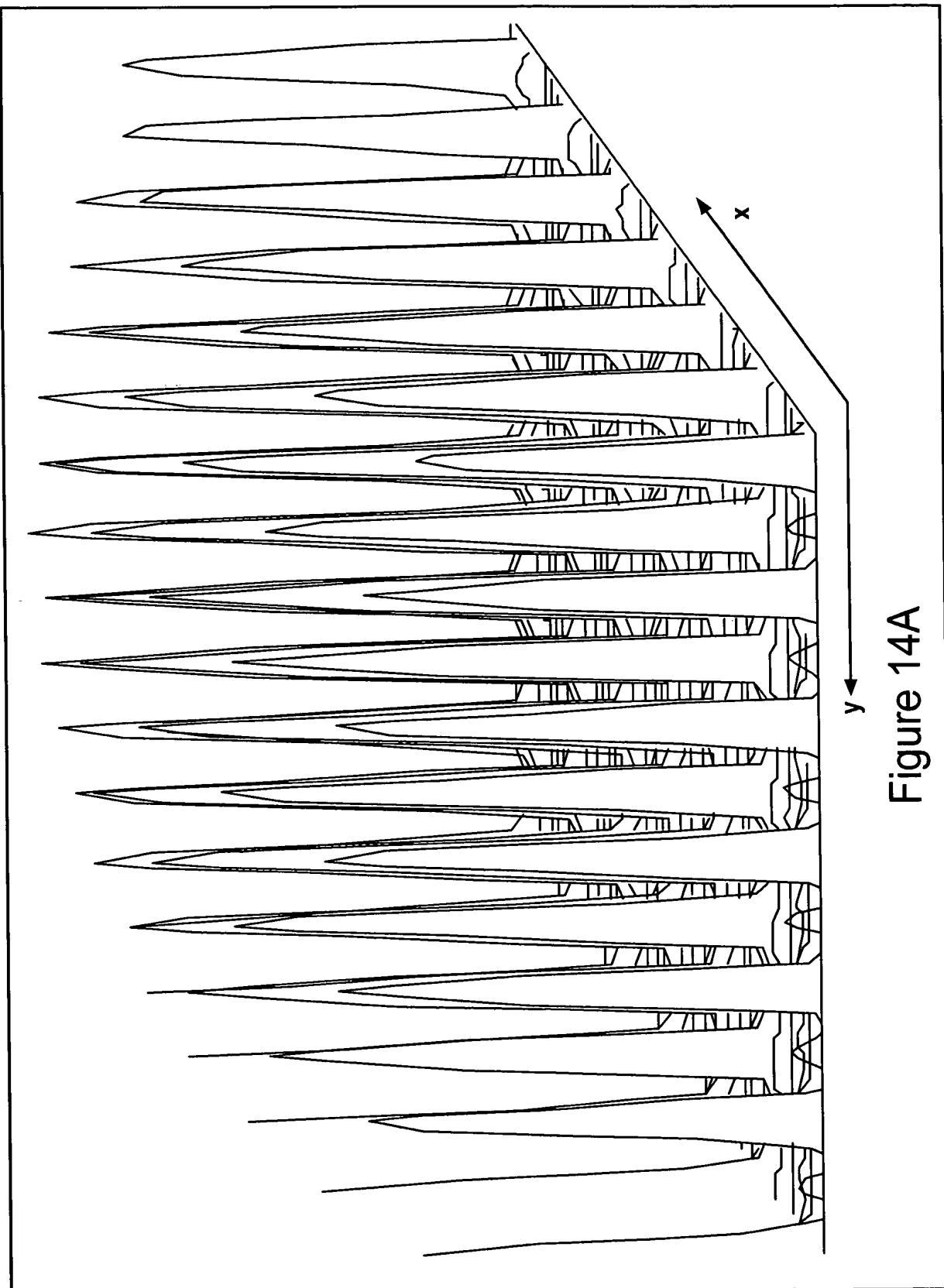
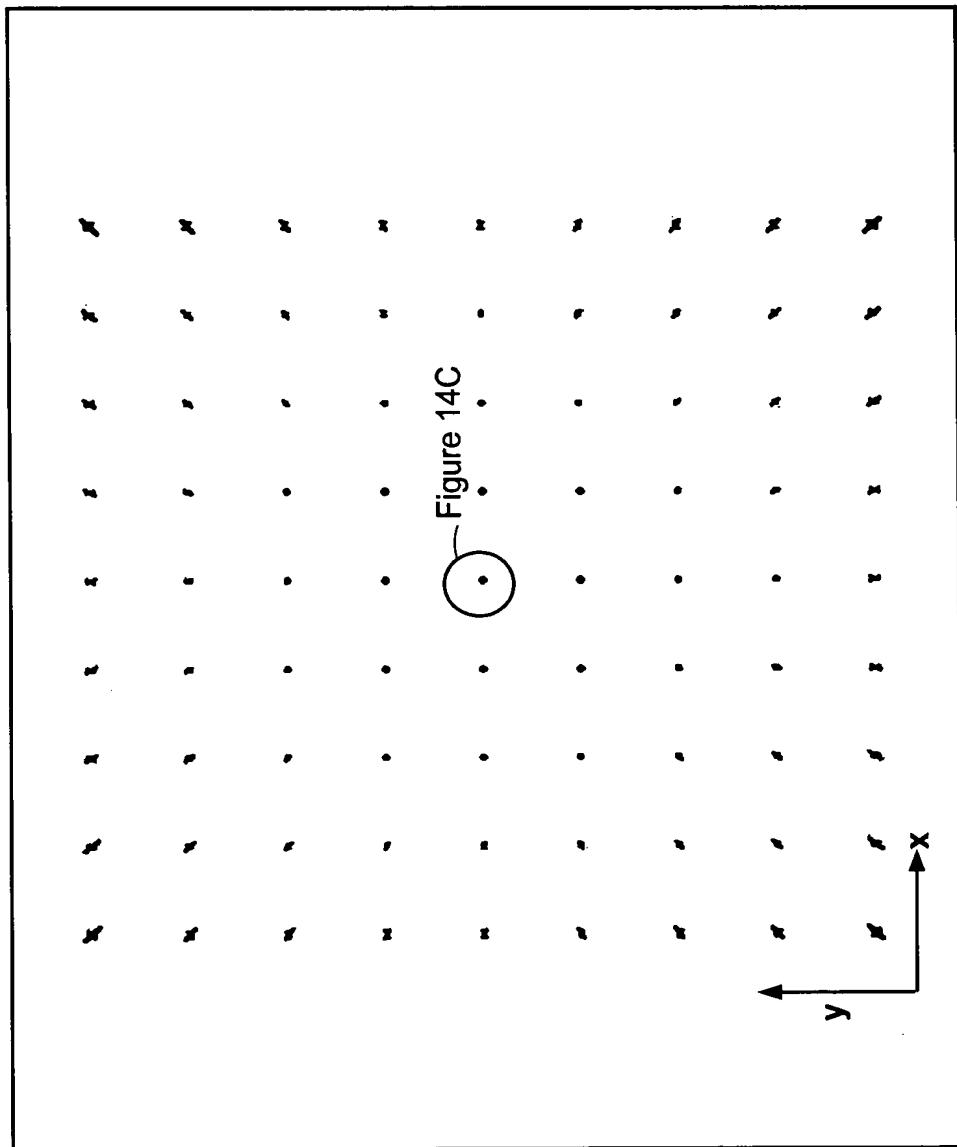


Figure 14A

17/18



18/18

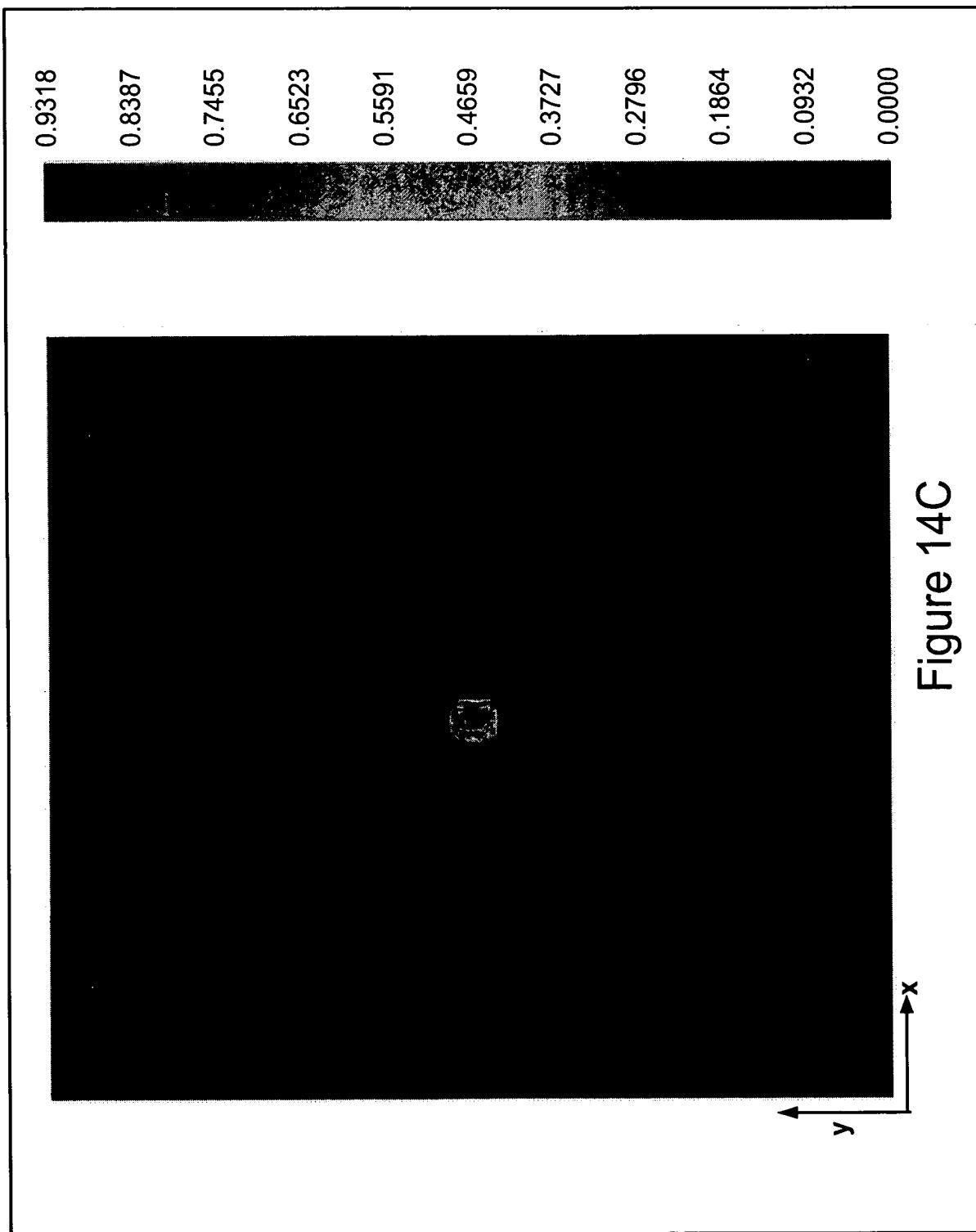


Figure 14C